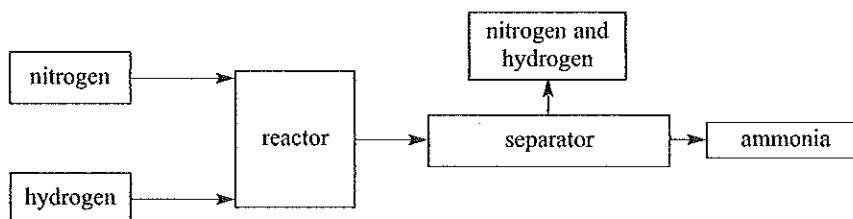


- (a) Ammonia is made industrially by the Haber process. In this process nitrogen is reacted with hydrogen. The flow diagram shows what happens in the Haber process.



- (i) Give the names of the raw materials from which the nitrogen and hydrogen are obtained.

Raw material from which nitrogen is obtained

Raw material from which hydrogen is obtained

(2)

- (ii) State the conditions used in the reactor.

.....

(3)

- (iii) How is the ammonia separated from the unreacted nitrogen and hydrogen?

.....

(1)

- (iv) What is done with the unreacted nitrogen and hydrogen?

.....

(1)

- (b) Ammonium nitrate can be used as a fertiliser to increase plant growth. It is made by reacting ammonia solution with nitric acid. Write a chemical equation for this reaction.

.....

(2)

(Total 9 marks)

Q3